

Halifax, Nova Scotia, about 1852-57, and was first reported at Portland and Kennebunk, Maine, in 1870. (Suggesting again the need of a certain period of time to permit the development of a population of sufficient size to permit and require dispersal.) Migrating with the Labrador current the species appeared at Salem and Provincetown, Mass., in 1872; averaging at least 60 miles per year between Kennebunk and Provincetown. Apparently experiencing difficulty passing around Cape Cod, it did not reach Wood's Hole until 1875. From here on its rate of migration speeded up again, though proceeding against the current, and it reached New Haven in 1880, averaging approximately 23 miles per year. It was first reported at the Narrows at Staten Island in 1888,⁵ but the long sandy beaches, lacking intervening rocky shores or shingle beach, appear to have effectively prohibited much further movement as the latest report available indicates that the present southern range of the species is New Jersey.⁶

The marked contrast between the rate of migration observed for the two species does not readily admit of explanation. Fundamental differences in the habits of the two species are probably the most significant causes. It is also evident that although conditions are sufficiently favorable to permit the establishment and migration of *Crepidula convexa*, they are not as near the optimum as the environment of the Atlantic Coast proved to be for *Littorina littorea*.

CYPRAEA TIGRIS LINNÉ IN THE HAWAIIAN ISLANDS

BY WRAY HARRIS

For many years naturalists have believed it probable that the range of the tiger cowrie includes the Hawaiian Islands, although heretofore no definite proof of this has come to light. A few dead shells have been picked up at the beaches, and at least one specimen has been dredged in Honolulu harbor. *Cypraea tigris* is of widespread occurrence in the Pacific, and many specimens from

⁵ Jacot, A. P., Nautilus, vol. 33, p. 115, 1920.

⁶ Johnson, Proc. Boston Soc. Nat. History, vol. 40, no. 1, pp. 1-204; 1934.

other localities are in private collections here. Dealers have imported large quantities of these shells for the curio trade. In the absence of living animals there can be no certainty that the shells found here are native. They may have been dropped accidentally by visitors at the beaches, to be picked up by others and subsequently reported as Hawaiian. Edmondson, in "Reef and Shore Fauna of Hawaii," 1933, says: "There is some evidence that *C. tigris* L. lives in offshore water about the islands, though no living specimens are known to have been taken."

In April, 1934, Mrs. Harris and myself were shown two *Cypraea tigris* by Mrs. Howard Hee, of Lanikai, Oahu. Both specimens contained decomposing animals. Mrs. Hee, in discussing the find, described accurately the living animal of *C. tigris*, which she had seen at the time the shells were discovered. They were taken in two fathoms of water at the outer side of Lanikai reef by Jiro Akamine, a Japanese fisherman. One of the shells was lost afterwards. Dimensions of the remaining specimen are: length, four and five-eighths inches, width three inches.

A large specimen of *C. tigris* is in the possession of Mr. Will J. Cooper, of Hauula, Oahu. This shell measures five and three-fourth inches in length, and three and five-eighths inches in width. It is the largest of which I have been able to find a record. Mr. Cooper's account of the shell is that it was taken about six years ago by Edward K. Nihipali at the edge of the reef at Hauula, in six feet of water. The living animal was seen by Mr. and Mrs. Cooper.

Five specimens of this species in the Bryan collection, Bishop Museum, Honolulu, are reported to be from the Hawaiian Islands. One from Waikiki, in good condition, measures five and one-fourth inches in length; an eroded specimen from Niuhau Island is four and fifteen-sixteenths inches in length; another from Niuhau or Kauai, beachworn, is five and one-eighth inches in length; a fragment measuring five and one-half inches in length was dredged from Honolulu harbor, and a fifth shell, labeled "Hoopuloa, Island of Hawaii," is two and seven-sixteenths inches long.

Dr. C. Montague Cooke, Jr., malacologist at the Bishop Museum, has noticed an interesting fact in connection with *Cypraea*

tigris. While small specimens are abundant south of the equator, shells taken near the northern limit of its occurrence are uniformly large. The average length of specimens in the Bishop Museum collection from Johnson Island, lat. $16^{\circ} 45' N.$, long. $169^{\circ} 39' W.$, is four and four-tenths inches. The average length of specimens which we have reason to believe are from the Hawaiian Islands is 5.19 inches.

Honolulu, Hawaii, July 28, 1935

FATAL CASE OF ATTACK BY CONE

BY TOM IREDALE

In June, 1935, a young man examining a cone, apparently *Conus textile*, at Hayman Island, Queensland, was bitten in the hand and died four and a half hours afterwards. This is the first fatal case in Australian history, though a few cases have been recorded from the islands to the north and east. One of the earliest notes was by A. Adams, in the Voyage of the Samarang, Vol. II, p. 356, 1848, who noted that the Commander, Captain Sir Edward Belcher, was bitten by a *Conus aulicus* on Meyo, a small island near Ternate in the Moluccas. Later Bennett (Gatherings of a Naturalist, 1860, p. 382, footnote) observed that *Conus textile* was poisonous among the islands of the New Hebrides Group. Since then *Conus tulipa* has been accused by Crosse and Marie (Journ. de Conch., Vol. XXI, 1874, p. 353) in New Caledonia, along with *Conus textile*. Montrouzier followed (Journ. de Conch., Vol. XXV, 1877, p. 99) with *C. marmoreus* at the I. of Maré, Loyalty Group, and *Conus geographus* (we have the actual shell in the Australian Museum) was found responsible for a case at Levuka, Fiji. These cover the cones that have proved poisonous and sometimes fatal, but it will be wise in the future to handle all species with great care. I have picked up many specimens of *C. textile*, a comparatively common species on the Great Barrier Reef of Queensland, and have collected all the others mentioned. One day at Low Isles, Queensland, a large number of *C. marmoreus* were found and handled without thought of danger, but this will not occur again.